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ABSTRACT

The effect of grade span configuration (grouping of grades in schools) and school-to-school transition on student achievement was investigated. The Michigan Education Assessment Program test was used to collect data on the passing rate of students in 232 schools in a large urban inner city school district in the midwest. The results indicate that grade span configuration and school-to-school transition had significant positive and negative effects on student achievement respectively. The paper discusses implications for school districts. (Author)

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The Effect of Grade Span Configuration and School-to-School Transition on Student Achievement

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Abstract

The effect of grade span configuration and school-to-school transition on student achievement was investigated. The Michigan Education Assessment Program test was used to collect data on the passing rate of students in 232 schools in a large urban inner city school district in the midwest. The results indicate that grade span configuration and school-to-school transition had significant positive and negative effects on student achievement respectively. Implications for school districts were discussed.

The academic achievement of students in inner-city public schools has been a source of debate for politicians, school administrators, and parents. Much research has been conducted to determine which variables effect the academic achievement of students. Of the most notable variables (parent, peer, and community), the effect of school-related variables on the academic achievement of inner-city students is one of the most debated.

This article will address two school related variables-transition and grade span configuration-that receive little attention from school administrators. However, these two variables may have a major impact on student achievement as opposed to the school-related variables that receive the most attention-professional development, school improvement programs, and school reform--but may have the least impact on student achievement.

Studies have been conducted to assess the influence of variables such as teacher professional development, school programs, and school reform on student achievement. Desimone, Porter, Garet, Yoon, and Birman (2002) found that teachers were more likely to use specific teaching practices that were focused on during professional development workshops. If teachers are implementing teaching practices learned through professional development, then there is the potential for student achievement to be influenced. Yet, professional development alone is not enough to improve student achievement.

In an attempt to effect student achievement, urban school districts buy into and implement many different school programs. Some of the programs claim to effect students' social and emotional learning, improve staff relationships with the parents, or parent relationships with the child. The programs are evaluated by school district

personnel and conclusions are drawn regarding the success or failure of the program. Mattingly, Prislin, McKenzie, Rodriguez, and Kayzar (2002) analyzed 41 K-12 parent involvement program evaluations performed by each respective school district. Although all of the school district evaluations concluded that the programs were successful in improving student achievement, Mattingly et al. (2002) concluded there was little evidence to support the school districts' findings. Consequently, there is cause for concern as to whether student achievement is being positively influenced by some school programs.

Given the push towards educational accountability, school reform has been feverishly debated. Schools, school boards, and school districts in Detroit, New York, Cleveland, and other cities have been taken over by the state or by the school district. The objective is to reform or reconstitute failing schools with the purpose of improving student achievement. Malen, Croninger, Muncey, and Jones (2002) conducted an expoloratory case study on three schools in a large metropolitan school district. Those three schools were targeted for reconstitution by the school district. Malen et al. (2002) found that many factions within the school district-union representatives, school administrators, teachers-were negatively impacted by the reconstitution efforts. The authors also found that the new faculty and staff brought in as replacements were not motivated or as committed as is presumed under reconstitution. Once again, there is concern for whether student achievement is being positively influenced under those conditions.

If there is any effect that professional development, school improvement programs, or school reform has on student achievement, it appears to be indistinct. Given

the district resources that are being utilized to improve student achievement via the abovementioned, other areas that can have an effect on student achievement in urban inner city public schools, yet has received little attention in the literature or within the school districts, are school-to-school transition and grade span configuration and their impact on student achievement.

In a study of 15 schools in Missouri with grade spans 7-12, 9-12, and 10-12, Alspaugh (2000) found that the higher grade at which a student transitions to high school the more likely the student would dropout of high school. In the study, the author found that students in 7-12 high schools had a lower occurrence of high school dropout than students who transitioned to high school in the 10th grade. Alspaugh (2000) surmised that because the students in the 7-12 high school did not transition to an intermediate middle school those students were able to acclimate themselves to high school sooner than the students in the 10-12 or 9-12 high schools. Previously, Alspaugh (1998) determined that not only did the number of school transitions effect the high school dropout rate, but also transition in conjunction with school size.

If transition can effect the dropout rate, then it can also effect achievement. Alspaugh (1998) found that Missouri students in the K-8 grade span who transitioned to high school without attending an intermediate middle school experienced less of an achievement loss than students who had to attend a middle school or junior high school. So, along with transition, grade span configuration appears to have an impact on student achievement.

The aforementioned studies focused primarily on rural or small town school districts. Little detailed information was given or has been reported in the literature

regarding large urban inner city districts and the effects of school-to-school transition or grade span configuration on achievement. So, the purpose of this study is to investigate the effects of grade span configuration and transition on student achievement. More specifically, the research questions that will be investigated are:

1. What is the relation between grade span configuration and student achievement?
2. What is the relation between school-to-school transition and student achievement?
3. What is the effect of school-to-school transition and grade span configuration on student achievement?

Given the drive towards educational accountability, no stone can be left unturned. If grade span configuration and/or school-to-school transition can positively influence student achievement, then school district administrators should give serious thought to reconfiguring schools within the district to maximize student achievement.

Method

Participants

The sample consists of 232 out of 264 schools from a large inner city public school district in the Midwest. Thirty-one schools were eliminated from the study because those schools did not have measurements on the dependent variable. The student body within the school district is approximately 91% African-American.

Materials

The Michigan Educational Assessment Program (MEAP) test from 2001 was used to collect data on student achievement. The MEAP test is administered to students in grades 4, 5, 7, 8, 11.

Procedure

The independent variables, grade span configuration and school-to-school transitions, were based upon the configuration of the 232 schools within the sampled school district. The configurations ranged from pk-4 up to 9-12 and their ranges were numbered accordingly. For school-to-school transitions, elementary schools were coded as 1 because the students transitioned from home to pre-kindergarten, kindergarten, or first grade. Middle schools were coded as 2 because the students transitioned from home to elementary school then to middle school. High schools were coded as 3 because the students transitioned from home to elementary school, to middle school, then to high school. Sixty-nine percent of the various grade span configurations occurred at the elementary school level. So, if a school did not have a pre-kindergarten, kindergarten, or first-grade level, then that school was coded as a transition 2 school.

The dependent variable, student achievement, was measured using the percentage

of students who passed the MEAP in 2001 in their respective schools. This data was collected from the Standard and Poor's School Evaluation Services website. It is found by dividing the total number of included scores that met state standards in all subject areas of the test by the total number of scores for each grade and subject within the given school.

Results

The average grade span configuration was 6.32 years with a standard deviation of 1.99 years. With a sample of size 159, the average percent of students passing the MEAP in transition 1 schools was 36.6% with a standard deviation of 16.4 percent. The average percent of students passing the MEAP in transition 2 schools was 21.9% with a standard deviation of 8% and a sample of size 45. With a sample of size 28, the average percent of students passing the MEAP in transition 3 schools was 24.5% with a standard deviation of 14.3%. The overall average percent of students passing the MEAP was 32.3% with a standard deviation of 16.2%. The average number of school-to-school transitions was 1.44 with a standard deviation of .70. SPSS was used to perform all of the statistical analysis.

Research Question One: What is the relation between grade span configuration and student achievement?

A simple linear correlation was performed to evaluate the relationship between grade span configuration and student achievement. The data revealed a significant positive correlation (.26, $p<.01$) between grade span configuration and achievement.

Research Question Two: What is the relation between transition and student achievement?

A simple linear correlation was performed to evaluate this relationship as well.

The data revealed a significant negative correlation (-.35, $p<.01$) between transition and student achievement.

Research Question Three: What is the effect of school-to-school transition and grade span configuration on student achievement?

A multiple regression analysis was performed to evaluate the effect of transition and grade span configuration on student achievement with the objective of determining which predictor had the greatest impact on achievement. When transition and grade span configuration were simultaneously regressed upon student achievement it was revealed that transition was a significant predictor of student achievement ($R^2 = .12$, $p< .05$).

Scheffe's post hoc comparison test was performed to determine where student achievement differences exist with respect to school-to-school transition. Significant differences were observed between 1 school-to-school transition and 2 and 3 school-to-school transitions with mean differences of 14.7% and 12.1% ($p < .05$) and standard deviations of .25% and .30% respectively. No significant differences existed between the 2 and 3 school-to-school transitions.

Discussion

As grade span configuration increases so does achievement. The more grade levels that a school services the better the students perform. The more transitions a student makes, the worse the student performs as evidenced by the negative correlation for research question two. When these independent variables are assessed independent of one another, the results express the same conclusion and that is the longer a student stays in a given school the better the student performs. Furthermore, from the post hoc comparisons, it appears as if student achievement in the elementary schools is significantly better than student achievement in middle and high school.

Yet, when these variables are evaluated simultaneously the results are different. Only school-to-school transition is a significant predictor of student achievement when measured in conjunction with grade span configuration.

In elementary schools, the students are in a cozy, nurturing environment with very few stressors. In a middle or high school, the students are in a formal, impersonal environment with a great deal of stressors (navigating through the school, forming peer relations, organizational adjustments, etc.). Hence, it seems as if the stressors involved in school-to-school transition are so critical that they neutralize or even diminish the achievement gains that were made in elementary school. Moreover, Alspaugh (1998) found that students who transitioned from multiple elementary schools and merged into one middle school experienced greater achievement loss compared to those students who transitioned from a single elementary school into one middle school. Hence, this is an important finding because large urban inner city public schools typically merge multiple elementary schools into one middle school which can seek to explain some portion of the achievement loss associated with elementary to middle school transition.

In a study of eighth-grade transition programs and high school retention, Smith (1997) found that middle schools with transition programs which targeted students, parents, and staff produced high school students with higher GPA's and fewer high school dropouts. This was in contrast to middle schools that did not have transition programs or had transition programs which only targeted parents, students, or staff but not all three.

In conclusion, school district administrators may decide that the size of the school district does not feasibly or financially permit reorganization on the basis of grade span

configuration. Or, school district administrators may leave the selection of transition programs up to the individual school. But, when student achievement is at risk, decisions cannot be made cavalierly or off the cuff. Grade span configuration and school-to-school transition must be given serious consideration given their obvious impact on student achievement.

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Author Note

Stephanie D. Wren is a graduate student at Wayne State University in Detroit, Michigan majoring in education evaluation and research. The manuscript being submitted, The Effect of Grade Span Configuration and School-to-School Transition on Student achievement, 12 pages long with no tables or figures.

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